CLAIMS

1. A sensor arrangement for controlling opening and closing of a door device, said sensor arrangement being arranged to be mounted in the vicinity of the door device, said sensor arrangement comprising

an image-acquiring means, which is arranged to be mounted in a viewing position wherein said image-acquiring means monitors a field of view that encompasses at least an approach area located adjacent said door device, said image-acquiring means being adapted to acquire images of said field of view,

a movement detector, which is arranged to receive said acquired images and which is arranged to process the received images in order to detect a movement, which is to result in an opening of the door device, and

an event generator, which is arranged to receive information regarding said door device and said field of view, said information comprising said acquired images, said event generator being arranged to process said information in order to identify at least one event according to predetermined criteria, wherein the event generator in response to an identification of an event creates a recording of the event.

2. The sensor arrangement according to claim 1, wherein the sensor arrangement is a unitary structure.

3. The sensor arrangement according to claim 1 or 2, wherein said event generator is arranged to receive information from a door position sensor regarding position and/or speed of said door device.

4. The sensor arrangement according to any one of claims 1-3, wherein said recording includes associated information regarding said event, wherein a predefined specification determines what associated information is to be included in a recording.

5. The sensor arrangement according to claim 4, wherein said recording includes at least one image of said field of view.

6. The sensor arrangement according to any one of claims 1-5, wherein the at least one event to be identified by the event generator includes at least one event that permanently changes the settings of said field of view that is monitored by the image-acquiring means.

7. The sensor arrangement according to any one of claims 1-6, wherein said event generator is arranged to process the received images in order to identify a plurality of different events according to different predetermined criteria.

8. The sensor arrangement according to any one of claims 1-7, further comprising a communication unit, which is arranged to transmit said recording of the event over a data network to which the sensor arrangement is connected.

9. A method in a sensor arrangement for controlling opening and closing of a door device, said sensor arrangement being mounted in the vicinity of the door device, said method comprising:

acquiring information regarding said door device and an area adjacent said door device, said information comprising images of a field of view that encompasses at least an approach area located adjacent said door device,

processing said information in order to identify at least one event according to predetermined criteria, and

in response to an identification of an event, creating a recording of the event.

10. The method according to claim 9, wherein said acquiring of information comprises acquiring information regarding speed and position of the door device.

11. The method according to claim 9 or 10, wherein said recording of the event comprises at least one image of the field of view.

12. A system for controlling a device for opening and closing of a door device, said system comprising

a sensor arrangement being arranged to be mounted in the vicinity of the door device, said sensor arrangement comprising

an image-acquiring means, which is arranged to be mounted in a viewing position wherein said image-acquiring means monitors a field of view that encompasses at least an approach area located adjacent said door device, said image-acquiring means being adapted to acquire images of said field of view, and

a movement detector, which is arranged to receive said acquired images and which is arranged to process the received images in order to detect a movement, which is to result in an opening of the door device, and

an event generator, which is arranged to receive information regarding said door device and said field of view, said information comprising said acquired images, said event generator being arranged to process said information in order to identify at least one event according to predetermined criteria, wherein the event generator in response to an identification of an event creates a recording of the event, and

a computer unit being connected to the sensor arrangement for receiving recordings of events identified by the sensor arrangement and handling said recordings.

13. The system according to claim 12, wherein the computer unit is connected to a display device for displaying recordings of events to an operator of the device for controlling opening and closing of the door device.

14. The system according to claim 12 or 13, wherein the computer unit is arranged to store recordings of events in a log.

15. A sensor arrangement for controlling opening and closing of a door device, said sensor arrangement being arranged to be mounted in the vicinity of the door device, said sensor arrangement comprising

an image-acquiring means, which is arranged to be mounted in a viewing position wherein said image-acquiring means monitors a field of view that encompasses at least an approach area located adjacent said door device, said image-acquiring means being adapted to acquire images of said field of view, and

an event generator, which is arranged to process information regarding said door device and said field of view in order to identify at least one event according to predetermined criteria, wherein the event generator in response to an identification of an event creates a recording of the event, said recording comprising at least one image of the field of view.

16. A system for managing a plurality of door control arrangements that are arranged to control the opening and closing of a corresponding plurality of door devices, comprising:

a plurality of image sensors, each being arranged for mounting in a viewing position to acquire images of a field of view adjacent to one of said door devices,

a plurality of movement detectors, each being arranged to receive said images from at least one of said image sensors and to issue an activation signal to one of said door control arrangements, based on detection of an object approaching said door device in at least one of said images;

at least one event generator, which receives and processes said images to identify at least one event according to predetermined criteria and creates a recording of such an identified event;

at least one event storage, which stores said recordings created by said at least one event generator;

at least one network connection unit, which connects said at least one event storage to a communication network, thereby making said recordings accessible to an external computer, via said communication network and said network connection unit, for management of said door control arrangements.

17. The system according to claim 16, wherein each image sensor has a unique identifier, and wherein said at least one event generator includes said identifier in each of said recordings.

18. The system according to claim 16 or 17, which comprises a plurality of sensor arrangements, each incorporating said event generator, said event storage and at least one of said image sensors.

19. The system according to any one of claims 16-18, further comprising a local management unit which incorporates said event storage and which is remotely connected to a plurality of sensor arrangements, each incorporating said event generator and at least one of said image sensors.

20. The system according to any one of claims 16-19, further comprising a local management unit which incorporates said event generator and said event storage and which is remotely connected to said plurality of image sensors.

21. The system according to any one of claims 16-20, wherein said managing includes at least one operation selected from the group consisting of:

monitoring the operation of said plurality of door control arrangements;

monitoring the operation of said plurality of door devices;

monitoring the operation of said plurality of movement detectors;

monitoring the operation of said plurality of image sensors;

logging at least part of said recordings; and

processing at least part of said recordings.

22. The system according to any one of claims 16-21, wherein said at least one network connection unit connects said plurality of image sensors and/or movement detectors to said communication network, thereby making said image sensors and/or movement detectors accessible to an external computer, via said communication network and said network connection unit.

23. The system according to claim 22, wherein said image sensors and/or movement detectors are arranged to receive processing instructions from said external computer via said network connection unit.

24. The system according to claim 23, wherein said processing instructions include an instruction set to be executed by a processor in at least one of said movement detectors to thereby change its operation.

25. The system according to claim 23 or 24, wherein said processing instructions bring at least one of said image sensors to acquire an image and make it accessible to the external computer.

26. The system according to any one of claims 16-25, wherein said at least one network connection unit connects said at least one event generator to said communication network, thereby making said event generator accessible to an external computer, via said communication network and said network connection unit.

27. The system according to claim 26, wherein said at least one event generator is arranged to receive processing instructions from said external computer via said network connection unit.

28. The system according to claim 27, wherein said processing instructions are selected from the group consisting of:

bringing the event generator to change said predefined criteria for a given event;

bringing the event generator to store predefined criteria for a new event; and

bringing the event generator to store a specification of associated information to be included in the recording of a given event.

29. The system according to any one of claims 16-28, wherein said movement detector is controllable between a door sensor operating mode, in which it provides said activation signal to said door control arrangement, and a surveillance operating mode, in which said activation signal is disabled.

30. The system according to claim 29, wherein said event generator is controllable, in said surveillance mode, to process said images with respect to predefined alarm criteria, and to create a recording of an alarm event in the case of said predefined alarm criteria being met.

31. The system according to any one of claims 16-30, wherein said at least one event includes a set-up event which is recorded whenever the event generator detects that a given configuration process has been completed in the image sensor and/or the movement detector.

32. The system according to any one of claims 16-31, wherein said at least one event includes an image failure event which is recorded whenever the event generator detects that one of said images substantially differs from a reference image.

33. The system according to any one of claims 16-32, wherein said at least one event includes a zone shift event which is recorded whenever the event generator detects that one of said images differs from a reference image by a displacement of at least one common background object.

34. The system according to any one of claims 16-33, wherein said at least one event includes an auto adapt event which is recorded whenever the event generator detects that one of said images has been stored as a reference image.

35. The system according to any one of claims 16-34, wherein said at least one event includes a door closing speed violation event which is recorded whenever the event generator detects that the closing speed of the door device exceeds a predetermined limit.

36. The system according to any one of claims 16-35, wherein said at least one event includes a door hold open event which is recorded whenever the event generator detects that the door device has been held open during a time period that exceeds a predetermined limit.

37. The system according to any one of claims 16-36, wherein said at least one event includes an automatic door check event which is recorded whenever the event generator detects that the movement detector has executed a testing process, which includes providing said activation signal and testing the subsequent operation of the door control arrangement.

38. The system according to any one of claims 30-37, wherein said recording includes at least one image of the field of view.

39. The system according to any one of claims 16-38, wherein said at least one event includes a start-up event which is recorded whenever the event generator detects that the image sensor and/or the movement detector has been restarted.

40. The system according to any one of claims 16-39, wherein said at least one event includes a door activation count event which is recorded whenever said event generator detects that said door control arrangement has been activated a predefined number of times.

41. The system according to any one of claims 16-40, wherein said at least one event includes a maintenance reminder event which is recorded whenever said event generator detects that a current date meet a predefined date.

42. The system according to any one of claims 16-41, wherein said at least one network connection unit is arranged for connection to a public communication network, such as the Internet.